

# Completed Return-On-Investment Project Case Study



United States Department of Energy  
Office of Environmental Management  
Fact Sheet

## Decontamination Facility Savannah River Site, South Carolina

### Original Problem

SRS generates radiologically contaminated equipment and materials that are unable to be reused due to contaminate levels. The Site relies on individual generators to decontaminate these items or the items are wasted and new are purchased. Without dedicated tools and knowledgeable personnel to support decontamination of materials most were often wasted as solid radioactive waste resulting in both replacement costs and disposal costs.

### The ROI Project Solution

The Decontamination Facility was established to provide a cost-effective, centralized decontamination and waste support operation for the Savannah River Site (SRS). This facility located in an old reactor building houses many state-of-the-art decontamination technologies and waste improvement programs. Decon Facility personnel provide a core competency and required equipment for various state of the art decontamination technologies, including: CO2 blasting, surface profiling, strip coating, vacuum grit blasting, chemical decon, super heated water blasting, sponge blasting, shrouded mechanical tools, radiological assay, polyurea coating, etc.



CO2 Unit – Part of the SRS Decon Facility

### DOE Monetary Benefits

<b>Cost</b>	<b>~\$3,000,000/yr</b>
<b>Lifecycle Savings</b>	<b>\$60,000,000</b>
<b>Return on Investment*</b>	<b>100 %</b>

\* ROI based on 1 year project life.

### Value Of Improvement

Based on historical trending since facility startup in FY97 through FY99, the facility recovers about 1,275 m3 of materials and 35,000 ft2 of radiological area per year resulting in an annual gross savings of ~\$6 million per year. Savings result from material decontamination and recovery, contamination area recovery, and segregation of sanitary waste from radioactive waste.

### Lifecycle Waste Reduction

<b>Life Cycle Waste Reduction</b>	<b>12,750 m3</b>
<b>Operation Commencement Date</b>	<b>12/97</b>
<b>Project Useful Life (Years)</b>	<b>10</b>

### Benefits At-A-Glance

- Provides site resource of core technologies and competencies for cost effective recovery of contaminated materials.
- Supports waste minimization and asset management goals.
- Initial technology deployment focus for site-wide applications
- Achieves savings/cost avoidance of ~\$6 million per year.

Building Upon an Office of Science and Technology Demonstration Success

## Decontamination Facility

### Savannah River Site, South Carolina

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#### Summary Data

<b>ROI Priority Area:</b>	<b>Waste Management</b>
<b>ROI Project Type:</b>	<b>Recycle/Reuse</b>
<b>Project Cost:</b>	<b>\$3,000,000 per year based on current work load</b>
<b>Lifecycle Savings:</b>	<b>\$6,000,000 per year based on current work load</b>
<b>Implementing Group:</b>	EM, SRS Facility Decommissioning Division
<b>Benefiting Group:</b>	EM, SRS Site
<b>Useful Life Years:</b>	<b>10 years assumed for equipment life (savings based on 1 year)</b>
<b>Return On Investment:</b>	<b>100% based on 1 year</b>
<b>Lifecycle Waste Reduction:</b>	<b>1,275 m3/yr at current work load, expected to increase</b>
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